Description of *Chicoreus (Triplex) lorenzi* n.sp. (Gastropoda: Muricidae) from the Marquesas Archipelago

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ABSTRACT. A new species of Muricidae, *Chicoreus (Triplex) lorenzi* n.sp. is described from Nuku Hiva in the Marquesas Archipelago. It is compared with *C. (T.) thomasi* (Crosse, 1872) a related species occurring in the same region.

INTRODUCTION

The review and the updates of the Muricidae from French Polynesia have been published by Tröndlé & Houart (1992), Houart & Trondlé (1997) and Houart & Trondlé (2008) without any mention of the existence of a sibling species related to *Chicoreus thomasi*. This was mostly due to the lack of material. However, new material and new evidence makes it now certain that two closely resembling species are involved. The new species is here described and compared with *C. thomasi*.

Repository

BMNH. Natural History Museum, London, United Kingdom.
MNHN. Muséum national d'Histoire naturelle, Paris, France.

P :	Primary cord
s :	secondary cord
t :	tertiary cord
ad :	adapical
ab :	abapical
SP:	Subsutural cord
IP :	Infrasutural primary cord (primary cord on subsutural ramp)
adis :	adapical infrasutural secondary cord (on subsutural ramp)
abis :	abapical infrasutural secondary cord (on subsutural ramp)
P1 :	Shoulder cord
P2-P6 :	Primary cords of the convex part of the teleoconch whorl
s1-s6 :	secondary cords of the convex part of the teleoconch whorl
example: s1 = secondary cord between P1 and P2; s2 = secondary cord between P2 and P3, etc.	
ADP :	adapertural primary cord on the siphonal canal
MP :	median primary cord on the siphonal canal
ABP :	abapertural primary cord on the siphonal canal
ads :	adapertural secondary cord on the siphonal canal
ms :	median secondary cord on the siphonal canal
abs :	abapertural secondary cord on the siphonal canal
APERTURE	
ID:	Infrasutural denticle
D1 to D7:	Abapical denticles

Terminology in parentheses: erratic feature.

Table 1. Terminology used to describe the spiral cords (based on Merle, 1999 and 2001)

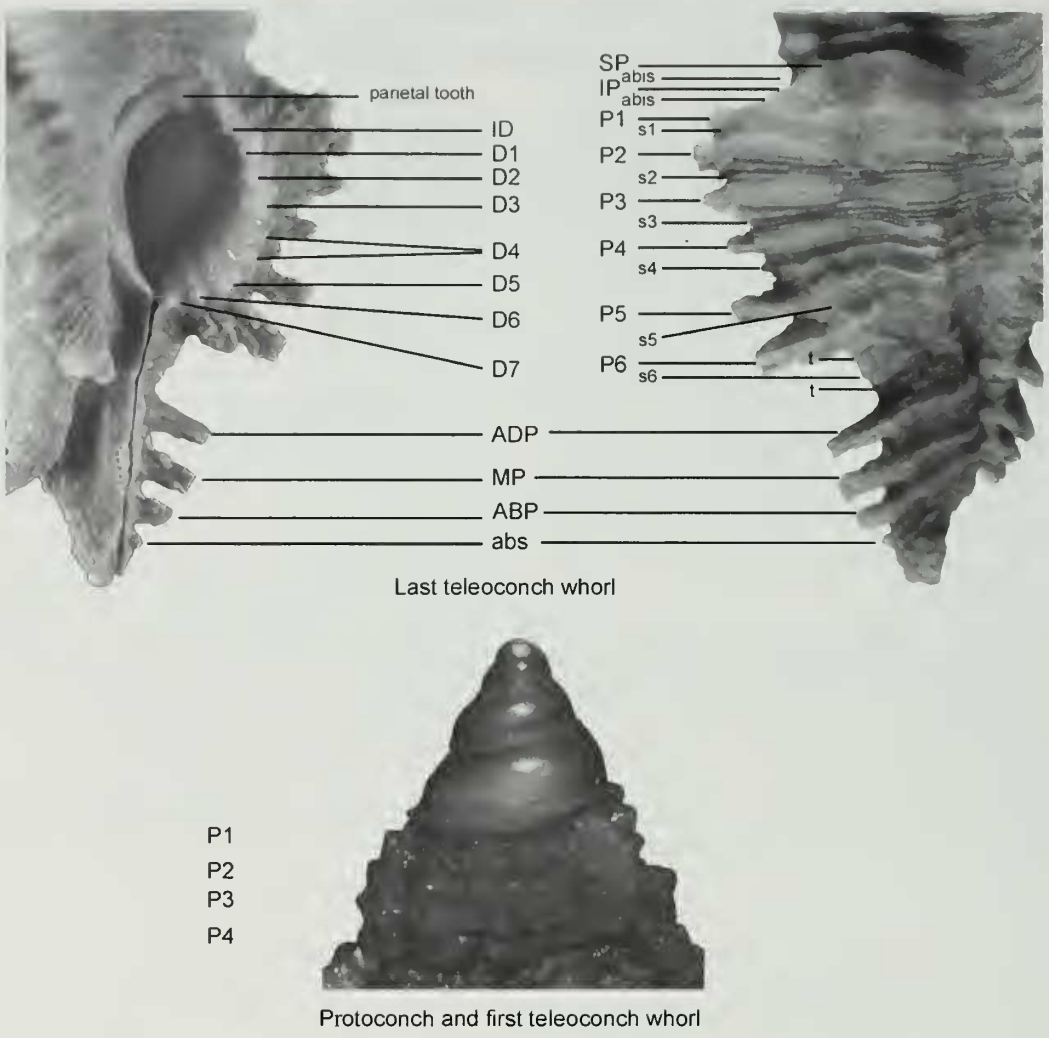

Fig. 1. Terminology used in *Chicoreus (Triplex) lorenzi* n.sp.

SYSTEMATICS

Family **MURICIDAE** Rafinesque, 1815
Subfamily **MURICINAE** Rafinesque, 1815
Genus ***Chicoreus*** Montfort, 1810
Subgenus ***Triplex*** Perry, 1810
Type species by monotypy: *Triplex foliatus* Perry, 1810 (= *Murex palmarosae* Lamarck, 1822)

Chicoreus (Triplex) lorenzi n.sp.

Figs 1, 2-9

Chicoreus thomasi (Crosse, 1872) – Tröndlé & Houart, 1992: 74, figs 15-16.

Type material. Holotype MHNH 223921, 1 paratype IRSNB IG.31420/MT2218, 1 paratype F. Lorenz coll., 1 paratype R. Houart coll.

Type locality. French Polynesia, Marquesas Archipelago, S Nuku Hiva, Cape Motumeno, 30-35 m, clean sand and rocks.

Other material examined. S Nuku Hiva, Cape Motumeno, 30-35 m, 22 sp. coll. F. Lorenz; Hiva Oa Island, 9°52.6' S, 139°03.2' W, 60-62 m, 5 sp., MNHN.
Nuku Hiva, Anaho, 50-60 m, coll. J. Tröndlé.

Distribution. S Nuku Hiva and Hiva Oa Islands, in 30-60 m.

Description. Shell medium sized for the subgenus, up to 60 mm in length at maturity (coll. J. Tröndlé). Length/width ratio 1.71-1.94:1. Lanceolate, ovate, stout, weakly frondose, subsutural ramp weakly sloping, weakly concave.
Shell light to bright pink or light orange. Aperture white or pinkish inside, columellar lip light pink with single white knob abapically and white parietal tooth. Outer apertural lip with white denticles within and pink between denticles. Anal notch pinkish.
Spire high, acute, with 3.5-3.75 protoconch whorls and teleoconch up to 8 weakly convex, weakly shouldered, nodose whorls. Suture adpressed. Protoconch small (Fig. 9), more or less 1000 µm wide

at base and 1000 µm high; first whorl small, 25 µm broad; conical, with a single narrow keel abapically, more strongly developed on last whorl. Terminal lip thin, raised, of sinusigeral type.

Axial sculpture consisting of 12 high narrow ribs on first 3 adapical teleoconch whorls; 3 high varices and 2 broad intervarical ridges on fourth and fifth whorl; sixth to last whorl with 3 high wide varices and a single high wide intervarical ridge, more strongly developed at shoulder. Spiral sculpture of first teleoconch whorl with visible P1-P4; second whorl with P1-P4, starting IP; third whorl with P1-P4, IP, fourth whorl with SP, abis, IP, (adis), P1-P4; P4 occasionally overlapped by next whorl; fifth whorl of a juvenile specimen with SP, t, adis, IP, abis, (t), P1, s1, P2, s2, P3, s3, P4, s4, P5, s5, P6, (t), s6, (t), ADP, (ads), MP, (ms), ABP, (abs). Seventh and eighth whorls with SP, adis, ID, abis, P1, s1, P2, s2, P3, s3, P4, s4, P5, s5, P6, s6, ADP, ads, MP, ms, ABP, abs and numerous tertiary cords. Primary cords covered by small, squamose threads.

P1-P3 ending as small spines of approximately same magnitude on varix; P4 with smallest spine; s4 broader than s1-s3; P5 and P6 with relatively long spines on varix; P6 longest; s6 with longest secondary spine; ADP, MP and ABP spines decreasing in length and strength abapically.

Aperture relatively small, roundly ovate. Columellar lip narrow with strong, elongate parietal tooth at adapical extremity, occasionally with additional weak elongate knobs. Abapically with single or split knob. Anal notch, moderately deep, obvious, narrow. Outer lip erect, crenulated, with 9-11 elongate knobs within: ID occasionally split, D1, D2, D3, D4 split, D5 occasionally split, D6, D7. Siphonal canal relatively long, 34-36% of shell length, broad, straight, weakly bent dorsally at tip, with 3 short blunt spines bent abapically.

Operculum dark brown, ovate, with subapical nucleus and numerous concentric ridges. Attached surface with about 12-14 growth lines, and large wide callused rim.

Discussion. *Chicoreus (Triplex) lorenzi* n.sp. was confused with *C. (T.) thomasi* by Tröndlé & Houart (1992: 74, Figs 15-16). However, at that time only a few specimens of either form were known. Now, with the help of substantial material (MNHN and coll. F. Lorenz) I have been able to compare more carefully these two related, but different species, both occurring in the Marquesas Archipelago.

Chicoreus thomasi (Figs 10-17) differs in having a stouter shell with comparatively lower spire, broader shell and shorter siphonal canal. The shell also differs in its spiral sculpture. In *C. thomasi* the number of primary and secondary cords is similar to that in *C. lorenzi* n.sp., however their shape and the length of the varical spines is quite different. In *C. thomasi* P1-P4 are almost similar in size, P5 and P6 are weakly broader, while s6 also bears the longest secondary cord. P5 and P6 are the only primary spiral cords ending as short, broad, open spines at axial varices. Juveniles of both species are very close (Figs 8 and 16), however in *C. thomasi* there are fewer axial ribs in the first 2 or 3 adapical teleoconch whorls (10 or 11 *vs* 12 in *C. lorenzi*), and the formation of the varices seems to start earlier, at the end of the third whorl, while starting at fourth whorl in *C. lorenzi* n.sp.

Both species also have a different habitat (F. Lorenz, pers. comm.). *C. lorenzi* n.sp. lives in small groups of 2-4 specimens, under scattered rocks or among rocky piles, on clean sand without sediment, and in strong currents. *C. thomasi* lives in large colonies, buried in muddy sand, W of Nuku Hiva. No intermediates forms are known in the different habitats.

Etymology. This new species is named for Felix Lorenz who was the first to call to my attention the peculiar shell characters of *C. lorenzi* n.sp. and of *C. thomasi*, and to note the different habitats for both species.

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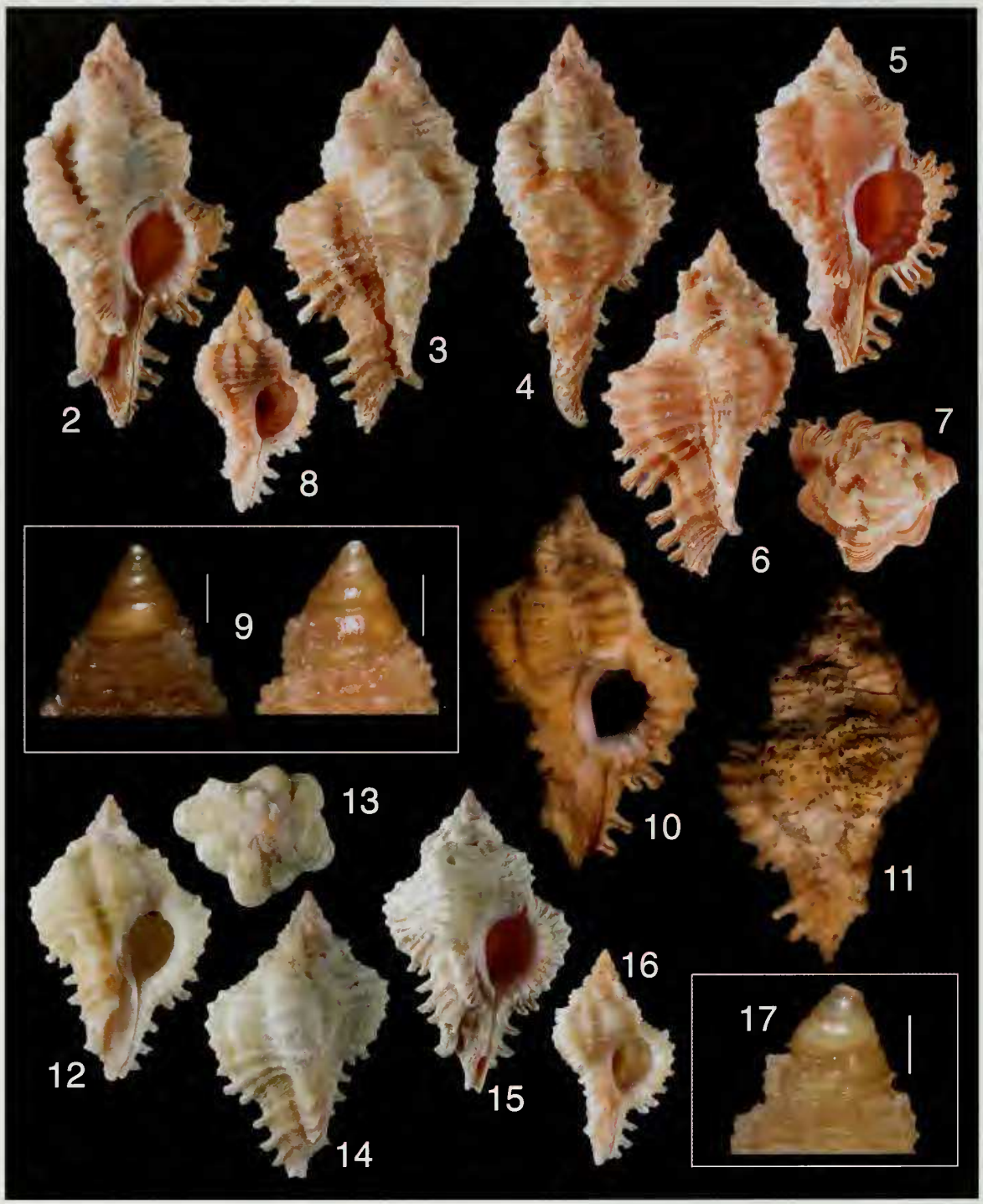

Figures 2-17

2-9. *Chicoreus (Triplex) lorenzi* n.sp. French Polynesia, Marquesas Archipelago, S Nuku Hiva, Cape Motumeno, 30-35 m. 2-4. Holotype MNHN 223921, 47.4 mm; **5-7.** Paratype F. Lorenz (immature lip), 47.4 mm; **8.** Coll. F. Lorenz (juvenile, protoconch illustrated), 18 mm; **9.** Protoconch (scale bars 0.5 mm).
10-17. *Chicoreus (Triplex) thomasi* (Crosse, 1872), Marquesas Archipelago.
10-11. Nuku Hiva, lectotype BMNH 1902.5.28.53, 45.5 mm; **12-14.** Ua PU id, 49-100 m, MNHN, 34.5 mm; **15.** NW Nuku Hiva, 28-31 m, coll. F. Lorenz., 39.9 mm; **16.** Ua Huka ID, 50 m, MNHN, (juvenile, protoconch illustrated),17 mm; **17.** Protoconch (scale bar 0.5 mm).